

We Claim:

1 1. An optical symbol scanner assembly for detecting and decoding a symbol lying
2 on a surface of an article, the symbol comprising a pattern of fluorescent markings
3 non-fluorescent surface, said fluorescent markings fluorescing in the presence of
4 black light radiation, the assembly comprising:

5 a hand-held scanner device having a distal face on which is positioned light-
6 generating means for producing illumination to fall on said symbol, said light
7 generating means including at least one black-light emitting diode, and focusing
8 means for focusing an image of said symbol on an imager device positioned
9 proximally thereof within said scanner device, said focusing means defining an
10 optic axis; and

11 a shield mounted on the distal face of said scanner device, having an optical
12 passageway having an optic axis aligned with the optic axis of said scanning device,
13 and an illumination channel within the shield for directing and guiding the black
14 light emitted by said diodes such that said black light illumination impinges on said
15 symbol and the scanner device views the symbol as produced by said fluorescent
16 markings.

1 2. An optical symbol scanner assembly according to Claim 1 wherein said shield is
2 in the form of a hollow shroud, and includes at a distal end thereof a plate of a
3 material that is transparent to said black light illumination.

4 3. An optical symbol scanner assembly according to Claim 2 wherein said plate of
5 material is oriented at a non-right angle to said optic axis.

1 4. An optical symbol scanner assembly according to Claim 1 wherein said shield is
2 formed acrylic material, and is provided with an opaque coating.

1 5. An optical symbol scanner assembly according to Claim 1 wherein said light
2 producing means includes a plurality of LEDs that produce illumination in the far
3 blue to near ultraviolet region.

1 6. An optical symbol scanner assembly according to Claim 5 wherein said LEDs
2 produce illumination between 350 nm and 420 nm.

1 7. An optical symbol scanner assembly according to Claim 6 wherein said LEDs
2 produce illumination between about 390 nm and 405 nm.

1 8. An optical symbol scanner assembly according to Claim 1, further comprising an
2 optical filter on said optical axis in advance of said imager device for passing light
3 fluorescing from said markings, but blocking illumination emitted from said at least
4 one diode.

1 9. An optical symbol scanner assembly according to Claim 1 wherein said light-
2 generating means includes an array of LEDs mounted at a distal face of said
3 housing and spaced from said optic axis.